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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,737	12/10/2007	Gary Fairless Power	42399/45004	5544

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BARNES & THORNBURG LLP
750-17TH STREET NW
SUITE 900
WASHINGTON, DC 20006-4675

EXAMINER

HINDENLANG, ALISON L

ART UNIT	PAPER NUMBER
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1791

MAIL DATE	DELIVERY MODE
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07/21/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/597,737	Applicant(s) POWER ET AL.	
	Examiner ALISON HINDENLANG	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-10,26-38 and 40 is/are pending in the application.
- 4a) Of the above claim(s) 27-38 and 40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-10 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/04/2006 and 10/09/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (claims 1-4, 6-10, and 26) in the reply filed on 05/05/2009 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1, and 6- 9 are rejected under 35 U.S.C. 102(b) as anticipated by Gibbons (US 6143380) (already of record).**

4. With respect to claim 1, Gibbons teaches:

A method of manufacturing an optical component having at least one photo-oriented polymeric layer provided on a substrate, wherein the method includes the steps of (a process for preparing an optical alignment layer for aligning liquid crystals", ABS):

providing a single source of laser radiation ("laser 1", column 15, line 9, figure 1);

splitting the laser radiation into a first beam of linearly polarized light having a first plane of polarization, and a second beam of linearly polarized light having a second plane of polarization ("entered a polarizing rotator and beam splitter combination 3 and upon exiting, two polarization components 6 and 7 separated as the propagated away from 3", column 15, lines 9-12, figure 1);

directing the first beam of linearly polarized light onto a first area or areas of at least one photo-orientatable polymeric layer to cause a first molecular orientation in the first area or areas of the layer ("6 and 7 were focused into lines of about 1 cm x 0.2 cm onto the substrate(s) 10", column 15, lines 19-20, figure 1); and

directing the second beam of linearly polarized light onto said photo-orientatable polymeric layer to cause a second molecular orientation in a second area or areas of the layer ("6 and 7 were focused into lines of about 1 cm x 0.2 cm onto the substrate(s) 10", column 15, lines 19-20,

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figure 1).

5. Gibbons further teaches "at least of one of the steps must consist of exposure with linearly polarized light" (column 11, lines 2-3).

6. With respect to claims 6 and 7, Gibbons teaches "exposing can be accomplished by polarized light transmitted through at least one mask having a pattern" (column 10, lines 60-61, figure 1).

7. With respect to claim 8, Gibbons teaches "exposures can also be localized to regions much smaller than the substrate size to sizes comparable to the entire substrate size" (column 11, lines 3-5).

8. With respect to claim 9, Gibbons teaches "exposure energy requirements vary with the formulation and processing of the optical alignment layer... lower exposure energy also minimizes the risk of damage" (column 11, lines 14-22).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 10 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbons (US 6143380).

12. With respect to claim 10, Gibbons teaches "by adjusting the polarizing rotator in 3, the ratio of optical power in 6 and 7 can be adjusted and, in this case, the ratio was adjusted to be 1:6" (column 15, lines 14-16). It would have been obvious to one of ordinary skill in the art at the time of the invention to try multiple ratios of energy between the beams.

13. With respect to claim 26, Gibbons teaches "exposure may be conducted before or after contacting the optical alignment layer with the liquid crystal medium" (column 1, lines 58-59) and to use "lower exposure energy" (column 11, line 21) for the purpose of minimizing the risk of damage to the substrate materials (column 11, lines 21—22). It would have been obvious to one of ordinary skill in the art at the time of the invention to use beam energies which are low than the "forces adhering the photo-orientable layer to the substrate" for the purpose of minimizing the risk of damage to the substrate materials.

14. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbons (US 6143380) as applied to claim 1 above, and further in view of Matsumoto (US 4258111).

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15. With respect to claim 2, Gibbons does not teach the second beam arriving after a delay time relative to the first beam. Gibbons does appear to show beams 6 and 7 (figure 1) traveling paths of different lengths but does not make any statements regarding said paths.

In the same field of endeavor, splitting laser beams, Matsumoto teaches “the coherent beam is divided into two beams by a beam splitter 103 and one beam directly passes an optical lens... while the other beam is reflected by a reflecting mirror” (column 6, lines 19-13, figure 1) for the purpose of aligning the beams in an interference pattern at the target. The examiner interprets to mean the beams travel different distances between the splitter and the target. This difference will inherently cause the beams to arrive at the target with one being delayed from the other. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method taught by Gibbons by using a beam splitter and deflector system such as that taught by Matsumoto for the purpose of aligning the beams as desired at the target.

16. With respect to claims 3 and 4, the delay time is a result effective variable based on the path lengths for the beams which it would have been within the skills one of ordinary skill in the art at the time of the invention to control.

The combination of Gibbons and Matsumoto as applied to claim 2 discloses the claimed invention except for the length of the time delay. It would have been obvious to one having ordinary skill in the art at the time the invention was made to manipulate the time delay, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. One would have been motivated to

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manipulate the time delay for the purpose of patterning the substrate. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALISON HINDENLANG whose telephone number is (571) 270-7001. The examiner can normally be reached on Monday to Thursday 7:30 - 5 pm; Every other Friday 7:30 - 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Tucker can be reached on 571-272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ALH

/Philip C Tucker/

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Supervisory Patent Examiner, Art Unit 1791